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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/684,729 10/06/00 ST.MYER

T TRW(RG)4902

EXAMINER

PM82/1107
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MCANULTY, T	
ART UNIT	PAPER NUMBER

3682

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/684,729

Applicant(s)

ST.MYER, THOMAS R.

Examiner

Timothy P McAnulty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the bottom surface" in line 4 of claim 8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr. et al. in view of Cartwright et al..

Pfenninger, Jr. et al. discloses in figure 1, an axially extending input shaft 16; a housing 17; a bearing interposed between the housing and the input shaft; at least one series of axially spaced annular ribs 32 wherein adjacent ribs are separated by an annular groove; and a gasket 22 encircling the bearing. Pfenninger, Jr. et al. does not disclose said input shaft connected to a

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vehicle steering wheel as part of a vehicle steering column. However, Cartwright et al. discloses in figure 2 a vehicle steering column 10 including an input shaft 16 connected to a steering wheel 18; and a housing 32 including a cavity wherein a first and second bearing 34 are located; said first and second bearing being separated by a smooth annular. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the input shaft of Pfenninger, Jr. et al. connected to a steering wheel in view of the teachings of Cartwright et al. that it is old and well known in the art to provide axial support for an input shaft of a vehicle steering wheel with a bearing located within a housing.

Regarding claims 3,5 and 8, the dimensional limitations regarding the ribs are a matter of engineering design choice and the level of skill of one of ordinary skill in the art would produce a similar optimization.

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr. et al. in view of Cartwright et al. as applied to claims 1-5 and 8-10 above, and further in view of Kidzun et al..

The reference combination set forth above discloses the basic apparatus but does not disclose said ribs having a flat peak nor said annular groove having a flat valley. However, Kidzun et al. discloses in figure 3, a bearing assembly including ribs 9 separated by annular grooves 12 wherein said rib includes a flat peak and the annular groove includes a flat valley. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference combination set forth above in view of the teachings of Kidzun et al. to include flat surfaces on the ribs and annular grooves so as eliminate a sharp edges which

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may cause damage to the gasket when said gasket is subjected to a shear load during axial loading of said input shaft.

Additionally, the dimensional limitations regarding the flat peak and the flat valley are a matter of engineering design choice and the level of skill of one of ordinary skill in the art would produce a similar optimization.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to bearing supports and vehicle steering column input shafts in general:

U.S. Patent No. 4,608,881 to Tanoue

Discloses a bearing retainer made from resin located with a housing for axial support of a vehicle steering input shaft.

UK Patent Application No. GB 2035471 A

Discloses a resiliently mounted bearing apparatus to achieve vibration and noise dampening.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00) alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7687 for regular communications and 703.305.7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

tpm

TPM

November 1, 2001

David Fenstermacher
DAVID FENSTERMACHER
PRIMARY EXAMINER
AV 3682
11/2/01